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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David R. Duncan

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EXAMINER

ROBINSON, KEITH O NEAL

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/708,724	Applicant(s) DUNCAN ET AL.	
	Examiner KEITH O. ROBINSON	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Applicant's amendment of claims 1, 4, 16 and 17 and withdrawal of claims 9-15, filed March 27, 2008, have been received and entered in full.

Claims 1-8, 16 and 17 are under examination.

Response to Arguments

The rejection under 35 USC 112, second paragraph on page 2 of the Office Action mailed December 27, 2007, has been obviated by Applicant's amendments.

The rejection has been withdrawn.

Claim Rejections - 35 USC § 103

Claims 1-8, 16 and 17 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Reichert et al (U.S. Patent No. 6,140,555, October 31, 2000), in view of Saxena et al (U.S. Patent No. 5,477,000, December 19, 1995). The rejection is repeated for the reasons of record as set forth in the previous Office Action mailed December 27, 2007 (see pages 2-9). Applicant's arguments, filed March 27, 2008, have been fully considered but are not persuasive.

Applicant argues claims 1, 16 and 17 have been amended to recite "a nodal section capable of producing callus", thus providing tissue culture media containing an effective amount of auxin and an effective amount of a cytokinin to produce a growing

seedling containing a nodal section capable of producing callus suitable for transformation and the cited references do not teach or suggest this claimed element (see page 6, last paragraph to page 7, lines 1-2 of 'Remarks' filed March 27, 2008).

This is not persuasive. Reichert et al teach that immature zygotic embryos can be used as explants for callus cultures (see, for example, column 2, line 59 to column 3, line 5; also see Table 1 where it lists several references that teach methods for obtaining transformable callus tissue). In addition, Reichert et al teach culturing nodal sections on induction media to produce embryogenic callus suitable for transformation (see, for example column 10, line 65 to column 11, line 15, where it teaches "[n]odal section explants are placed on corn shoot induction medium"; column 10, lines 45-47 where it states, "explants are also used as targets in a biolistics-based transformation system").

Applicant argues that the Saxena et al reference does not teach germination of mature seed in tissue culture media, but instead relates to tissue culture media to produce multiple shootlets from a single seed and that these shootlets include differentiated cells, not callus, which is a mass of undifferentiated cells (see page 7, 1st and 2nd paragraphs of 'Remarks' filed March 27, 2008).

This is not persuasive. Saxena et al teach germination of mature seed in tissue culture media containing an effective amount of auxin and an effective amount of cytokinin (see, for example, the 'Abstract' where it teaches, "viable regenerants can be produced by culturing an intact plant seed...in the presence of cytokinin and/or auxin

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growth factors"). Applicant's assertion that Saxena et al teach a direct embryogenesis that produces embryos resulting in multiple shoots is irrelevant because the Saxena et al reference was used to teach germinating a mature corn seed in tissue culture media containing an effective amount of an auxin and an effective amount of a cytokinin. Applicant's amended limitation of "capable of producing callus" does not overcome the teaching of Saxena et al because the term "capable of producing callus" implies that the claimed nodal section may or may not produce callus.

Applicant argues that Saxena et al is directed to one-step regeneration of multiple shootlets from a seed that totally avoids explant preparation for subsequent culture and that the invention is directed to preparing a callus producing nodal explant for subsequent culture in a media containing auxin and cytokinin (see page 7, last paragraph to page 8, lines 1-2 of 'Remarks' filed March 27, 2008).

This is not persuasive. Reichert et al teach methods for obtaining transformable callus tissue (see, for example, column 2, line 59 to column 3, line 5 where it teaches that immature zygotic embryos can be used as explants for callus cultures and Table 1 where it lists several references that teach methods for obtaining transformable callus tissue).

Applicant argues that there is no basis for one of skill in the art to believe that Saxena et al tissue culture conditions and media concentrations, which were developed

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for dicotyledonous plants, could be applied in monocotyledonous plants such as corn (see page 8, lines 8-11 of 'Remarks' filed March 27, 2008).

This is not persuasive. Reichert et al teach tissue culture conditions and media concentrations for monocotyledonous plants such as corn (see, for example, Table 1; also see, for example, column 5, lines 51-55, where it teaches medium containing 0.5 mg/l 2,4-D (an auxin) and 2.0 mg/l BAP (a cytokinin)). One of ordinary skill in the art would know which tissue culture conditions and media concentrations to use for monocotyledonous plants such as corn.

Applicant argues that a person skilled in the art would not have had any expectation of success for use of corn explants to produce transformable callus based on Saxena et al and that in contrast, the present application provides tissue culture media conditions for raising corn nodal explant source seedlings by providing effective concentrations of auxin and cytokinin in tissue culture media in order to physiologically prepare the nodal explants to induce a transformable callus (see page 8, lines 13-18 of 'Remarks' filed March 27, 2008).

This is not persuasive. Reichert et al teach tissue culture media conditions for raising corn nodal explant source seedlings by providing effective concentrations of auxin and cytokinin in tissue culture media in order to physiologically prepare the nodal explants to induce a transformable callus (see column 2, line 59 to column 3, line 5 where it teaches that immature zygotic embryos can be used as explants for callus cultures; see column 5, lines 51-55, where it teaches medium containing 0.5 mg/l 2,4-D

(an auxin) and 2.0 mg/l BAP (a cytokinin); see column 10, line 65 to column 11, line 15, where it teaches "[n]odal section explants are placed on corn shoot induction medium").

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH O. ROBINSON whose telephone number is (571) 272-2918. The examiner can normally be reached Monday – Friday, 7:30 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keith O. Robinson, Ph.D.
Examiner
Art Unit 1638
/David H Kruse/
Primary Examiner, Art Unit 1638
July 1, 2008